Instructional Unit Planning Manual – Essential Questions

Question One: What is the essential "question" or concept" that I want students to grasp?

- How do I determine that?

    - What commonalities are present in the content of this unit?

    - What is the central theme of this unit?

    - What single word encompasses the essence or meaning of the unit?

    - What is the significance or relevance of this unit, and how will it be conveyed to the students?

Question Two: What are the specific learning goals for the unit and how will those be communicated to students?

- Sharpening the focus – target learning.

    - Important characteristics (types).

    - The category to which something belongs.

    - Types of or examples of something.

    - Facts about specific persons, places, things, or event.

    - How something is similar to or different from something.

    - Cause/effect or correlational relationships (correlational relationships are not causal; a change in one element is associated with change in another element).

    - Components or steps involved in an important skill.

    - Important vocabulary.

- Communicating learning goals.

    - Determine goals based on target learning. Explicit statements which are understandable to students! Repeated often. Vignette – page 11.

    - Help students set group and individual learning goals to promote interest and ownership!

Question Three: What will be done to help students begin thinking about the new content?

- Create a physical environment that helps students begin thinking about the content.

– Provide students with ways to see the "big picture" relative to the new content using outlines, graphic organizers (more on these later!) and the like.

– As questions that help students identify what they already know about the content.

– Provide students with descriptions of direct links between new content and old content.

Question Four: What are the major activities and how will they be used to introduce new content to students and how will they be approached?

– Have students "read." "Nesting" the content in wider reading can help students "place" the new information in the "big picture."

– Have students "write." Writing causes students to analyze and synthesize their prior knowledge with the new knowledge to create their own, new knowledge.

– Have students "listen." Listening should accompany student recording or responding of the new information.

– Have students "discuss." Student "talk" allows for teacher language to be converted to student language; it causes students to thoughtfully interact with the content to form communications and questions.

– Have students "observe" or "view." Situating the new knowledge in two or three dimensional representations helps them grasp and situate the new knowledge in the "big picture." Given the current generation's exposure to television and video games, this is a favored learning modality.

– Have students "do." Having a student get his or her hands "dirty" in manipulating the concepts stimulates multiple learning modalities.

Question Five: During major learning activities, what will be done to help students process, encode, and construct meaning for the new content?

– Ask students to take notes.

– Ask students to construct written summaries. See summarization on the handout!

– Ask students to construct oral summaries.

– Ask students to represent the content as pictures, pictographs, graphic representations, physical models, or dramatic enactments.

– Ask students to create mental images (includes pictures, smells, taste, touch, sound, and even emotion) for content.

Question Six: What will be done to help students practice and revise the new content?

– Ask students to revise their notes, correcting errors and adding detail.

– Ask students to revise their pictures, pictographs, graphic representations, and physical models, correcting errors and adding detail.

– Ask students to revise their mental images, correcting errors and adding details.

– Use activities and assignments that require students to practice skills, processes, and procedures.

Question Seven: What will be done to help students apply the new content (in and outside of class)?

– Use activities and assignments that require students to compare and contrast content and defend their conclusions. See Identifying Similarities and Differences handout.

– Use activities and assignments that require students to classify content and defend their conclusions.

– Use activities and assignments that require students to create metaphors with content and defend their conclusions.

– Use activities that require students to create analogies with the content and defend their conclusions.

– Use activities and assignments that require students to solve problems regarding content and defend their conclusions.

– Use activities and assignments that require students to make decisions regarding content and defend their conclusions.

– Use activities and assignments that require students to engage in experimental inquiry regarding content and defend their conclusions.

– Use activities and assignments that require students to engage in systems analysis regarding content.

– Use activities and assignments that require students to invent things regarding content and defend their conclusions.

Question Eight: How will grouping of students be used (informal, formal, and base groups)?

– Use informal groups. Informal groups (e.g., pair share, turn to your neighbor) are used for short periods (one class period or less) to help students clarify expectations, process information in more depth, focus attention or to provide closure.

– Use formal groups. Formal groups are for well-structured activities that generally take a class period or longer. Group students in a manner conducive to the project parameters; heterogeneous groups of three to five members is considered an ideal.

– Use base groups. Base groups are for long term use (i.e., over multiple projects) that might extend to a semester or year. These groups benefit from members representing a variety of learning preferences.

Question Nine: During the unit and at the end of the unit, how will feedback be provided to students as to their status and progress?

– Use pre-testing. Pretests reveal what students know as a baseline and form an important reference by which to measure progress, especially when the pre-test is also used as a post-test. [Students don't remember enough of the pre-test to skew results in the post-test.]

– Periodically report current status and progress.

– Have students keep track of their current status and progress. This makes students think about their progress (considering *why* their progress is as it is) and provides an important basis of communication between the student and the teacher.

Question Ten: During the unit and at the end of the unit, how will success be celebrated and how will effort be encouraged?

– Celebrate legitimate success. Accomplishment of a goal, not simple participation in a task (unless that is the goal), should be celebrated in a fashion that reinforces and encourages effort.

– Recognize and encourage effort. Systematic recognition and encouragement should be offered. Systematizing it provides an expectation and "comfort" zone for students.

Planning to Teach for Understanding
Adapted from the
Harvard Graduate School of Education Teaching for Understanding Project
Blythe, Tina, et al. 1998. *The Teaching for Understanding Guide*. CA: Jossey-Bass.

At the foundation of any effort to teach students to ***understand*** a concept lay a couple of important assumptions. The first assumption is that the concept being taught is important to the student and life in the real world, in other words, that it is ***worth*** understanding. Without some grasp of the worth of a concept, student motivation to strive to understand may be lacking. The second assumption is that ***understanding*** **emerges from student** *interaction* with a concept, not from simple knowledge or comprehension level activity around the concept. Blythe reveals that "developing understanding means doing things – using old knowledge in new situations to solve novel problems" (p. 17). From this perspective, understanding is gained, and similarly assessed, by challenging students to interact with a concept, then use that concept in new ways. As planners of curricula designed to promote understanding, we must consider what is worth understanding, how students might best interact with the concepts to be understood, how students progress should be monitored and supported, and finally, how students may best demonstrate their understanding.

In the Teaching for Understanding Project, Blythe suggests a framework of **four key ideas to support planning**: understanding goals, generative topics, performances of understanding, and ongoing assessment. **Understanding goals** are the general goals that guide, or focus, a course or unit. They describe the essential understanding that students will gain, and may be rendered as either questions or statements (pp. 18-21). **Generative topics** are central to the content area, are of interest (importance) to the teacher and student, have multiple connections to students' lives, and offer a variety of resources through which students may pursue the topic. The central ideas of a concept map of the course are generally the generative topics a teacher should pursue (p. 18). **Performances of understanding** are those activities that students engage in from the beginning to the end of a course or unit. Performances reveal the development of student understanding and as such, must be assessed in an ongoing manner (p. 21). **Ongoing assessments** guide teacher efforts at remediating and directing student learning as well as rendering a final grade. Moreover, ongoing assessment of performance is accomplished primarily through rubrics that provide students with performance criteria, feedback, and opportunities for reflection throughout the learning process (pp. 21-22).

The pages that follow provide an example of how the framework might be used in practice. **Please be reminded that this example is** <u>not</u> **the one right way to develop plans, but is to serve as a means of demonstrating an acceptable plan**. Also, the example incorporates a set of national content standards into the framework, again ass a means of demonstrating one acceptable means of accomplishing the task. Some students may not have a set of national standards to incorporate. In this case, state standards or "big ideas" may be substituted. Various content areas may have an acceptable but different format for planning. **The primary thing to remember is, regardless of the format,** <u>all</u> **the components must be included**.

Brainstorming Chart

Adapted from the
Harvard Graduate School of Education Teaching for Understanding Project
Blythe, Tina, et al. 1998. *The Teaching for Understanding Guide*. CA: Jossey-Bass.

Overarching Understanding Goals / Course Understanding Goals
Related as a statement and a question: Students will understand … / How does understanding… help me understand myself as …?

Generative Topic	Unit-Long Understanding Goals
	Statements and questions

Performances of Understanding	Ongoing Assessment
Students will deepen understanding by doing …	Students will know how well they are doing by… (feedback)
	OR
	The criteria by which performance will be assessed will be …

Questions for Refining Brainstorming

Adapted from the
Harvard Graduate School of Education Teaching for Understanding Project
Blythe, Tina, et al. 1998. *The Teaching for Understanding Guide*. CA: Jossey-Bass.

Overarching Understanding Goals / Course Understanding Goals

- Capture what you believe are the most important understandings for your students to learn.
- Are phrased as statements that capture what the teacher wants students to learn, and as questions that capture what students will find valuable enough to want to learn.
- Closely relate to the unit topics and goals.

Generative Topics

- Are central to one or more disciplines or domains.
- Are interesting to you *and* your students.
- Help students make connections to other classes as well as to life outside school.
- Have related resources and materials that make the topic accessible to students.

Unit-Long Understanding Goals

- Are closely related to overarching or unit-long goals.
- Focus on the central aspects of the topic(s).
- Capture what you believe to be most important for students to understand about the topic(s).
- Take the form of a statement and a question.

Performances of Understanding

- Require students to demonstrate the understandings stated in goals.
- Require students to apply learning in new situations.
- Cause students to build and demonstrate understanding.
- Challenges students' misconceptions, stereotypes, and tendencies toward rigid thinking.
- Are sequenced so that students engage in them throughout the unit, providing you with a means of monitoring their development of understanding.
- Allow students to demonstrate understanding in a variety of ways (mindful of learning strengths).

Ongoing Assessment

- Include clear and public (known) criteria that are directly related to the understanding goals.
- Provide frequent opportunities for feedback.
- Not only tells students how they are doing, but also directs them in how to do better.
- Provides for multiple perspectives: teachers assess students, students assess each other, students assess themselves.
- Provides a logical mix of formal and informal assessments.

Teaching for Understanding Unit Plan Graphic Organizer

Grade/Subject:

Overarching Understanding Goals (Course-long goals)
1._____
2._____
3._____

Unit Topic (Generative topic):

Unit-Long Understanding Goals (Alignment with Indiana Academic Standards)
1._____
2._____
3._____

Essential Skills Goals:
1._____
2._____
3._____

Sequence of Understanding Performances

Sequence/Skill Strand	UG	Understanding Performances	Ongoing Assessments
Introductory Performance(s) IN Academic Stnds: Essential Skill(s) Learning Theory: Time Frame:			
Guided Inquiry Performance(s) IN Academic Stnds: Essential Skill(s) Learning Theory: Time Frame:			
Culminating Performance(s) IN Academic Stnds: Essential Skill(s) Learning Theory: Time Frame:			

Indiana Academic Standards
1._____
2._____
3._____

Unit Materials/Resources/Texts/Bibliography:

Teaching for Understanding Checklist

Adapted from the
Harvard Graduate School of Education Teaching for Understanding Project
Blythe, Tina, et al. 1998. *The Teaching for Understanding Guide*. CA: Jossey-Bass

You know you are teaching for understanding when …

The learning is generative:

- Instruction is focused around a few central topics.
- The topics are personally significant for you and your students.
- Students are actively engaged in their work.
- An atmosphere of genuine inquiry pervades the classroom.

The understanding goals are clear and explicit:

- Overarching or course-long goals are explicitly stated and posted in the classroom.
- Goals for particular units are closely related to overarching goals.
- You and your students regularly discuss and reflect on unit-long and overarching goals to help students make the connection between what they are doing and why they are doing it.

Students are working on performance of understanding almost constantly:

- Students work actively in varied formats: pursing projects and reflecting alone, collaborating and conferencing in small groups, and interacting in whole groups.
- Students are thinking and making that thinking visible in the contexts of performances of understanding that challenge their misconceptions, stereotypes, and rigid thinking.
- Students can explain why they are doing what they are doing.
- You spend your time coaching, conferencing, leading, participating in discussions, and sometimes lecturing.
- The room is filled with student work, both finished and in process.
- Responsibility and authority for the work is shared between you and your students.

The assessment is ongoing:

- Students engage in cycles of drafting, reflecting, critiquing, responding to, and revising their own and others' work.
- You and your students share responsibility for assessment.
- Everyone assesses work according to stated criteria and standards for quality, which are closely related to the understanding goals.
- Assessment is often casual, conversational, and spontaneous; periodically it is more formal, recorded and planned.
- Self-reflection occurs frequently, in a variety of forms.

Lesson Planning Graphic Organizer

Grade/Subject: _____

Previous day: _____

Objective (Unit Goal/Indiana Academic Standards):
        Behavior: (What students will "do" to acquire targeted knowledge/skill/affect)
        Condition: (What instruction/materials/experiences must be "given" for target acquisition)
        Criterion: (How "well" students must perform to determine target acquisition)

Resources/Materials: _____

Introduction:
        Activities
            Indicate how you will: Introduce/Refresh ideas/Stimulate prior knowledge
            Specify: Essential Skill Development Targets
        Management Strategies
        Learning Theory
        Time Frame

Body:
        Learning Activities
            Indicate how you will: Actively engage students in concept acquisition
            Specify: Essential Skill Development Targets
        Ongoing Assessment
            Criteria (Relates to Lesson Objective AND Essential Skill Dev. Targets)
            Feedback
            Tracking System
        Management Strategies
        Learning Theory
        Indiana Academic Standards
        Time Frame

Conclusion:
        Closure/Summary Activities:
            Indicate how you will: Allow students to summarize learning and provide
            remediation activities
            Specify: Essential Skill Development Targets
        Management Strategies
        Learning Theory
        Time Frame

Notes:

Project GEMS
Instructional Unit Planning Manual Training
Classroom Instruction that Works

Design Team Leaders
October 26, 2005

Overview

- Introduce the Instructional Unit Planning Manual (UPM) and the conceptual framework for planning
  - Working through IUPM
    - 10 critical questions
    - Specific instructional strategies
    - Reflection
- Issues associated with training and support
- Planning for training sessions

Ice Breaker

- Break into "teams" by school.

- By team, introduce yourselves (the usual "stuff") and then share one true thing that makes you unique. Identify also what your group hopes to take from today's work.

- Appoint a "spokesperson" to share the unique facts and challenge the other team to identify the individuals. Share your goals for today's work.

What is the Instructional Unit Planning Manual?

- A flexible framework for planning based on 10 critical questions

- It is non-prescriptive – it does **not** dictate how VCS teachers will teach

- It was developed by a team of VCS teachers in conjunction with Dr. Robert Marzano (an internationally recognized and highly respected researcher).

Why use the manual?

- It identifies a set of essential questions that, when answered, will ensure that best practices are employed.

- It is a means for logically addressing the Indiana Academic Standards in ways that meet the learning needs of **all** students.

- It provides for important teacher reflection following a unit of instruction.

Learning the Ten Critical Questions: Our Process

- As we consider each of these questions, your team will construct a unit of instruction (well, parts of one!).
- Because multiple content areas are represented, choose a topic that allows for cross-discipline study!
- We will refer heavily to the vignettes in the IUPM to guide our thinking as we answer the ten questions.
- We will "visit" particular instructional strategies as we construct the unit.
- We will share our thinking (process) and outcomes (product) as we move through each question.

Question One: What is the essential "question" or concept" that I want students to grasp?

- How do I determine that?
  - What commonalities are present in the content of this unit? Vignette – page 4.
  - What is the central theme of this unit? Vignettes – page 4.
  - What single word encompasses the essence or meaning of the unit? Vignette – page 5.
  - What is the significance or relevance of this unit, and how will it be conveyed to the students? Vignettes – page 5.
- Practice! With your team determine an essential "question" or "concept." Prepare to share the question/concept and how you determined it with the large group. See the template on page 34.

Question Two: What are the specific learning goals for the unit and how will those be communicated to students?

- Sharpening the focus – target learning.
  - Important characteristics (types) – Vignette, page 7.
  - The category something belongs to – Vignette, page 7.
  - Types of or examples of something – Vignette, page 8.
  - Facts about specific persons, places, things, or events – Vignette, page 9.
  - How something is similar to or different from something – Vignette, page 9.
  - Cause/effect or correlational relationships (correlational relationships are not causal; a change in one element is associated with change in another element) – Vignette, page 10.
  - Components or steps involved in an important skill – Vignette, page 10.
  - Important vocabulary – Vignette, page 11.
- Communicating learning goals.
  - Determine goals based on target learning. Explicit statements which are understandable to students! Repeated often. Vignette – page 11.
  - Help students set group and individual learning goals to promote interest and ownership!
- Practice! In your team, set at least **two** learning goals for your unit and prepare to share them with the whole group. See the template on page 35.

Break!!

Take ten!

Question Three: What will be done to help students begin thinking about the new content?

- Create a physical environment that helps students begin thinking about the content. Vignette – page 13.

- Provide students with ways to see the "big picture" relative to the new content using outlines, graphic organizers (more on these later!) and the like. Vignette – page 13.

- As questions that help students identify what they already know about the content. Vignette – page 14.

- Provide students with descriptions of direct links between new content and old content. Vignette – page 15.

- Practice! In your team, plan at least one strategy to help your students begin to think about the new content. Prepare to share them with the whole group. See the template on page 35.

Question Four: What are the major activities and how will they be used to introduce new content to students and how will they be approached?

- Have students "read." "Nesting" the content in wider reading can help students "place" the new information in the "big picture." See identifying similarities and differences on the handout! Vignette – page 15.

- Have students "write." Writing causes students to analyze and synthesize their prior knowledge with the new knowledge to create their own, new knowledge. Vignette – page 16.

- Have students "listen." Listening should accompany student recording or responding of the new information. Vignette – page 16.

- Have students "discuss." Student "talk" allows for teacher language to be converted to student language; it causes students to thoughtfully interact with the content to form communications and questions. Vignette – page 16.

- Have students "observe" or "view." Situating the new knowledge in two or three dimensional representations helps them grasp and situate the new knowledge in the "big picture." Given the current generation's exposure to television and video games, this is a favored learning modality. Vignette – page 17.

- Have students "do." Having a student get his or her hands "dirty" in manipulating the concepts stimulates multiple learning modalities. Vignette – page 18.

- Practice! In your content team, determine one introductory activity for your unit that takes advantage of these strategies. Prepare to share them with the whole group. See the template on page 36.

Identifying Similarities and Differences

Adapted from
Marzano, R.; Norford, J.; Paynter, D.; Pickering, D.; and Gaddy, B. (2001). *A Handbook for Classroom Instruction that Works.* Alexandria, VA: ASCD.

Identifying Similarities and Differences

Identifying how concepts are similar and different involves four related activities: *comparing, classifying, creating metaphors, and creating analogies.*

– **Comparing** involves examination of likeness or difference based on characteristics (e.g., two red Chevy trucks; one with flame decals and the other with no decals).

– **Classifying** involves categorizing by similar characteristics (e.g., hibiscus and black-eyed susans are perennials; pansies and marigolds are annuals).

– **Metaphors** link two seemingly different things on the basis of specific similarities (e.g., Emily Dickinson's *My Life has stood – A Loaded Gun*).

– **Analogies** involve relationships between paired elements (e.g., a ruler is to length as a measuring cup is to volume).

Students need explicit structure when the process of identification of similarities and differences begins; graphic and symbolic representations are of significant support as students begin this process!

Model for Comparing

Steps for Comparing
1. Select the items you want to compare.
2. Select the characteristics of the items on which you want to base your comparison.
3. Explain how the items are similar and different with respect to the characteristics.

Use a Graphic Organizer
(e.g., Venn Diagram)

Different | Same | Different
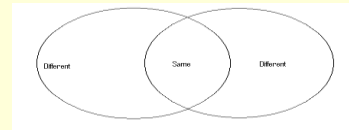
Use a matrix

Characteristic	Items to be compared				
	1	**2**	**3**	**4**	**5**
1					
2					
Conclusions:	Summary statements				

Model for Classifying

Steps for Classifying
1. Identify the items you want to classify.
2. Select what seems to be an important item, describe its key attributes.
3. Create the category by specifying the attributes that the items must have for membership in the category.
4. Select another item, describe its key attributes, and identify other items that have the same attributes.
5. Create the second category by specifying the attributes that the items must have for membership in the category.
6. Repeat the previous two steps until all items are classified and specific attributes have been identified for membership in each category.
7. If necessary, combine categories or split them into smaller categories and specify the attributes that determine membership in the category.

Use a Graphic Organizer

Literary Texts — Fiction, NonFiction; Myths, Poems, Etc., Biography, Speech; Haiku, Sonnet, Persuade, Inform

Use a matrix

The table below lists items grouped into three categories of resources. Review the categories to identify similarities within the columns and differences across the columns.

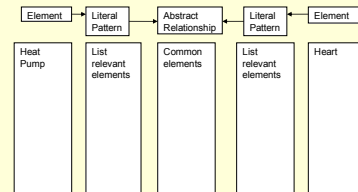| Column 1 Items listed	Column 2 Items listed	Column 3 Items listed	Questions:
Now it is your turn. Reclassify these items using categories that you determine. Then, answer the following questions: (provide questions that have students examine their rationale for the new structure).			

Model for Metaphors

Steps for creating metaphors
1. Identify the important or basic elements of the information or situation with which you are working.
2. Write the basic information as a general pattern by
   ✓ replacing works for specific things with words for more general things, and
   ✓ summarizing information whenever possible.
3. Find new information or a situation to which the general pattern applies.

Use a Graphic Organizer

Element → Literal Pattern → Abstract Relationship ← Literal Pattern ← Element

Heat Pump	List relevant elements	Common elements	List relevant elements	Heart

---

Have students examine their own thinking

The following metaphors describe the internet. Select the one that you believe best describes the internet and explain that metaphor. Then create a new metaphor of your own. As you complete this assignment, notice what the task asks you to do with the knowledge. How does it take you beyond simply recalling information?

✓ The internet is an information superhighway
✓ The internet is a giant flea market
✓ The internet is a coffee shop

Which metaphor do you think best describes the internet and why?

Write your own metaphor to describe the internet.

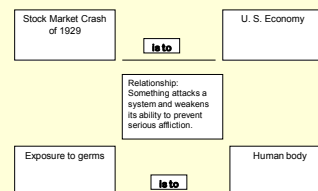What knowledge did you need to complete this task?

What would you need to do to prepare others for a task like this one?

Model for Analogies

Steps for creating analogies
1. Identify how the two elements in the first pair are related.
2. State their relationship in a general way.
3. Identify another pair of elements that share a similar relationship.

Use a Graphic Organizer

Stock Market Crash of 1929 — **Is to** — U. S. Economy

Relationship: Something attacks a system and weakens its ability to prevent serious affliction.

Exposure to germs — **Is to** — Human body

What the research says . . .

- Presenting students with **explicit guidance** in identifying similarities and differences enhances students' understanding of and ability to *use* knowledge.
- **Asking students to independently identify** similarities and differences enhances students' understanding of and ability to *use* knowledge.
- **Representing** similarities and differences in **graphic or symbolic form** enhances students' understanding of and ability to *use* knowledge.
- **Identification** of similarities and differences **can be accomplished in a variety of ways**. The identification of similarities and differences is a highly robust activity.
- **Statistical outcome**
  - Effect size = 1.61 (large effect)
  - Percentile gain = 45 (greater than one standard deviation)

Question Five: During major learning activities, what will be done to help students process, encode, and construct meaning for the new content?

- Ask students to take notes. See note taking on the handout! Vignette – page 18.
- Ask students to construct written summaries. See summarization on the handout! Vignette – page 19.
- Ask students to construct oral summaries. Vignettes – page 19.
- Ask students to represent the content as pictures, pictographs, graphic representations, physical models, or dramatic enactments. See visual representations on the handout! Vignette – page 20.
- Ask students to create mental images (includes pictures, smells, taste, touch, sound, and even emotion) for content. Vignette – page 20.
- Practice! In your team, determine what will be done in one major activity to helps students process, encode and construct meaning. Prepare to share this with the whole group. See the template on page 36.

Note Taking

Adapted from
Marzano, R.; Norford, J.; Paynter, D.; Pickering, D.; and Gaddy, B. (2001). *A Handbook for Classroom Instruction that Works.* Alexandria, VA: ASCD.

Note Taking

This process requires students to identify what is *most important* about, as well as the *relationships among* the concepts they are encountering. Students' learning preferences are critical to accommodate here so teachers should teach a variety of formats. And, while note taking skills should be explicitly taught by the classroom teacher, care must be taken to allow students to modify formats to best fit their learning preferences.

Recommendations:

- Teach a variety of formats and encourage students to modify to fit their purposes and preferences. Consider *when* as well (from reading, during lecture/discussion, all these).
- Give teacher-prepared notes
- Remind students to review notes


Key Facts:

- Note taking requires students to identify:
  - major and subordinate concepts
  - relationships among concepts
- Students' learning preferences are critical to accommodate:
  - teach note taking skills explicitly
  - teach a variety of formats
  - allow students to modify formats to best fit their learning preferences
- Key is to get students to analyze incoming information!
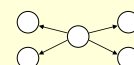

Three basic formats

1. Informal Outline   2. Webbing Notes
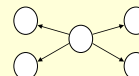
3. Combination

Informal Outline

Jazz
Origin
Multiple Influences
Banjo music in minstrel shows
Latin American Music
African American Music
Ragtime
Blues
Periods of development
Turn of 20th century – New Orleans Jazz
Trumpet or cornet – melody
Improvisation focused on ensemble sound
Musicians
Dixieland Jazz Band
New Orleans Rhythm Kings (1922)
Creole Jazz Band (1923)
King Oliver – leader
Jelly Roll Morton
Louis Armstrong – soloists prominent
Started scat singing – no words
1920s – Chicago, New York City
Experimentation, soloists added saxophone
Musicians in Chicago
Jack Teagarden (trombone)
(And so forth)

Key Features:
- **Imposes order** – student creates an order or recreates the order presented by the information source (instructor, textbook, etc.).
  - This may be hierarchical (order of relative importance), categorical, chronologic, or procedural.
  - Relationships are reinforced in a linear fashion through this method (left-brain dominant preference).
- **Information review** – provides for a single interaction with the content, little review is imposed by the format itself.
- **Summarization** – the act of note taking with this format forces a single summarization activity.
- **Time** – one interaction with the content consumes a relatively small amount of time in relationship with the combination format.
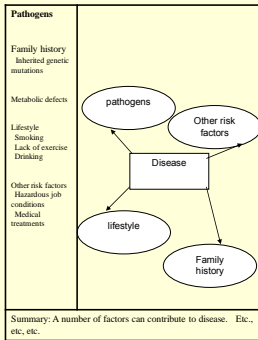
Webbing Notes

Understands basic number theory concepts (e.g., prime and composite numbers, etc.)
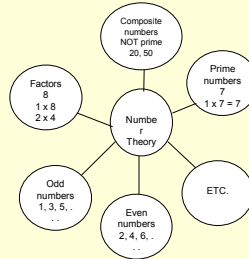
Key Features:
- **Imposes order** – student creates an order or recreates the order presented by the information source (instructor, textbook, etc.).
  - This may be hierarchical (order of relative importance), categorical, chronologic, or procedural.
  - Relationships are reinforced in a non-linear fashion through this method (right-brain dominant preference).
- **Information review** – provides for a single interaction with the content, little review is imposed by the format itself.
- **Summarization** – the act of note taking with this format forces a single summarization activity.
- **Time** – one interaction with the content consumes a relatively small amount of time in relationship with the combination format.

Combination

Pathogens

Family history
Inherited genetic mutations

Metabolic defects

Lifestyle
Smoking
Lack of exercise
Drinking

Other risk factors
Hazardous job conditions
Medical treatments

Summary: A number of factors can contribute to disease. Etc., etc, etc.

Key Features:
- **Imposes order** – student creates an order or recreates the order presented by the information source (instructor, textbook, etc.).
  - This may be hierarchical (order of relative importance), categorical, chronologic, or procedural.
  - Relationships are reinforced in a linear and non-linear fashion through this method (left and right-brain dominant preferences).
- **Information review** – student "interprets" notes into the unused column to reinforce concepts, to determine where questions remain, and to seek clarification.
- **Summarization** – student must translate learning into his/her own words to summarize as a separate activity as the conclusion of the note taking activity.
- **Time** – while each of these steps above is time consuming, they provide important procedural loops to ensure understanding and movement of concepts into long-term memory.
- **Flexible** – allows student to take notes in a form consistent with learning preference.

Give Students Teacher-Prepared Notes

– Teacher-prepared notes help students determine
  - relative importance of concepts,
  - relationships among concepts, and
  - provide a structure and models formats for note taking to be emulated.

– Diminish teacher-prepared notes as students gain skill in note taking!

Remind Students to Review Notes

– Reviewing notes prior to discussions or tests reinforces
  - conceptual knowledge,
  - highlights remaining questions, and
  - provides opportunities to seek clarification through the resources including the teacher.

– Following the learning activity (discussion, test, etc.) have students question themselves:
  - What worked well about taking notes in this way?
  - What should I change when I next take notes?
  - And then reinforce student's efforts to make appropriate changes and to continue to self-assess.

Rubric for Note Taking Assessment

Great	Good	Needs Improvement	Inadequate
1. My notes contain all major concepts about the topic. 2. My notes contain all supporting ideas for the major concepts. 3. Relationships among major and supporting concepts are easy to see and understand in my notes.	1. My notes contain all major concepts about the topic. 2. My notes contain many supporting ideas for the major concepts. 3. Most relationships among major and supporting concepts are easy to see and understand in my notes.	1. My notes contain all major concepts about the topic. 2. My notes contain some supporting ideas for the major concepts. 3. Relationships among major and supporting concepts are not clear in my notes.	1. My notes contain most major concepts about the topic. 2. My notes contain few supporting ideas for the major concepts. 3. Relationships among major and supporting concepts not clear in my notes.
If your notes fall in the GREAT category, you are well prepared for learning activities and tests!			

Self-Check for Teachers:

Consider whether you do these things rarely, sometimes or always. . .

– I clearly communicate the knowledge about which students will take notes.

– When appropriate, I provide students clear and accurate notes in a variety of formats.

– I clearly communicate the strategy that students will use to take notes.

– I make sure students know how to use the strategy that I want them to use for taking notes.

– I provide class time for students to review and revise their notes.

– Over time, I collect evidence about my students' proficiency at using a variety of processes for taking notes.

What the research says:

- Verbatim notes are the least effective – students don't analyze incoming information (too busy writing word-for-word)

- Notes should be considered a work in progress – notes should be revised as understanding increases

- Notes should be used as study guides for tests – the application is practical and payoff is potentially big (note taking is refined; study time is economically managed)

- Less is *NOT* more – notes need to be detailed enough to capture major and subordinate concepts as well as the relationships between them.

- Statistical outcome (when combined with summarization)
  — Effect size = 1.00 (large effect)
  — Percentile gain = 34 (one standard deviation)

Summarizing

Adapted from
Marzano, R.; Norford, J.; Paynter, D.; Pickering, D.; and Gaddy, B.
(2001). *A Handbook for Classroom Instruction that Works.*
Alexandria, VA: ASCD.

Summarizing

Summarizing is a process that involves two highly related elements: *filling in missing parts* and *translating information into a synthesized form.*

Three Basic Strategies for Summarizing

1. **Rule-Based Summarizing –** This strategy helps students to **highlight important information**. It is CRITICAL to model these as you provide direct instruction – "think aloud."
2. **Summary Frames** – This set of strategies help students **to highlight the important elements of specific patterns** commonly found in text.
3. **Reciprocal Teaching and Group-Enhanced Summary** – This strategy engages students in **summarizing and other thinking processes such as questioning, clarifying, and predicting**.

Rule-Based Summarizing

Steps for Rule-Based Summarizing

1. Delete trivial material that is unnecessary to understanding.

2. Delete redundant material.

3. Substitute superordinate terms for more specific terms (unless the specific terms are critical vocabulary – e.g., fish for trout).

4. Select a topic sentence, or invent one if it is missing.

Summary Frames

This set of strategies help students **to highlight the important elements of specific patterns** commonly found in text.

Topic-Restriction-Illustration (T-R-I) Frame

The T-R-I pattern:
1. Expository text patterns commonly include:
2. Topic: a general statement about the topic to be discussed.
3. Restriction: statements that limit the information in some way.
4. Illustration: statements that exemplify the topic or restriction.

The T-R-I frame (guiding questions):
1. Topic: What is the general statement or topic?
2. Restriction: What information does the author give that narrows or restricts the general statement or topic?
3. Illustration: What examples does the author give to illustrate the topic or restriction?

Summary Frames

Narrative Frame

Narrative or story patterns (elements):

1. Characters: the characteristics of the main characters in the story.
2. Setting: the time, place, and context in which the story took place.
3. Initiating event: the impetus that starts the action rolling in the story.
4. Internal response: how the main characters react emotionally to the initiating event.
5. Goal: what the main characters decide to do as a reaction to the initiating event (sometimes this is the goal they set).
6. Consequence: how the main characters try to accomplish the goal.
7. Resolution: how the goal turns out.

The narrative frame (guiding questions):

1. Who are the main characters? And what distinguishes them from other characters?
2. When and where did the storyy take place? What were the circumstances?
3. What prompted the action in the story?
4. How did the characters express their feelings?
5. What did the main characters decide to do? Did they set a goal? What was it?
6. How did the main characters try to accomplish their goals?
7. What were the consequences?

Summary Frames

Argumentation Frame

The argumentation pattern (supporting a claim):

1. Evidence: information that leads to a claim.
2. Claim: the assertion that something is true (identify the claim that is the focal point of the argument).
3. Support: examples of or explanations for the claim.
4. Qualifier: a restriction on the claim or evidence counter to the claim.

The argumentation frame (guiding questions):

1. Evidence: What information does the author present that leads to a claim?
2. Claim: What does the author assert is true? What basic statement or claim is the focus of the information?
3. Support: What examples or explanations support the claim?
4. Qualifier: What restrictions on the claim, or evidence counter to the claim, are presented?

Summary Frames

Definition Frame

The definition pattern (description):

1. Term: the subject to be defined.
2. Set: the general category to which the term belongs.
3. Gross characteristics: those characteristics that separate the term from other elements in the set.
4. Minute differences: the different classes of objects that fall directly beneath the term.

The definition frame (guiding questions):

1. What is being defined?
2. To which general category does the item belong?
3. What characteristics separate the item from other things in the general category?
4. What are some different types or classes of the item being defined?

Summary Frames

Problem or Solution Frame

The problem or solution pattern:

1. Problem: a statement of something that has happened or might happen that is problematic.
2. Solution: a description of one possible solution.
3. Solution: a description of another possible solution.
4. Solution: a description of another possible solution.
5. Solution: identification of the solution with the greatest chance of success.

The problem or solution frame (guiding questions):

1. What is the problem?
2. What is a possible solution?
3. What is another possible solution?
4. What is another possible solution?
5. Which solution has the best chance of succeeding?

Summary Frames

Conversation Frame

The conversation pattern:

1. Greeting: some acknowledgment that the parties have not seen each other for a while.
2. Inquiry: a question about some general or specific topic.
3. Discussion: an elaboration or analysis of the topic. Commonly included in the discussion are one or more of the following:
   - Assertions: statements of fact
   - Requests: solicit actions from listener
   - Promises: actions to be undertaken by the speaker
   - Demands: actions to be taken by listener
   - Threats: consequence for failure to act
   - Congratulations: value speaker attaches to action
4. Conclusion: the conversation ends in some way.

The conversation frame (guiding questions):

1. How did the members of the conversation greet each other?
2. What question or topic was insinuated, revealed, or referred to?
3. How did their discussion progress?
   - Did either person state facts?
   - Did either person make a request of the other?
   - Did either person make a promise to perform a certain action?
   - Did either person demand a specific action of the other?
   - Did either person threaten specific consequences if a demand was not met?
   - Did either person indicate that he valued something that the other had done?
4. How did the conversation conclude?

Reciprocal Teaching and Group-Enhanced Summary

This set of strategies engages students in **summarizing and other thinking processes such as questioning, clarifying, and predicting**.

This set of strategies is especially useful because it involves multiple analyses and interactions with the summary.

Group-Enhanced Summary

As in all cooperative learning, roles should be assigned to students. The teacher provides written guides or oral input. After silent or oral reading of the "text" students carry out the following:

- **Summarizing** – student leader gets input from group members. A rule-based or summary frame strategy is employed. A "draft" summary is composed by the group.
- **Questioning** – student leader solicits or uses questions to identify and help students recall important information.
- **Clarifying** – student leader seeks clarification ("Can anyone explain this?").
- **Predicting** – student leader seeks predictions as to what will happen in the next section of text.
- **Summary Statement** – the "draft" summary is reviewed and revised.

Reciprocal Teaching

As in all cooperative learning, roles should be assigned to students. After silent or oral reading of the "text" students carry out the following:

- **Summary** – a student leader summarizes the text.
- **Questioning** – student leader asks specific questions about the text.
- **Clarifying** – student leader gives students opportunity to ask questions to clarify their understanding.
- **Predicting** – student leader asks students to predict the content of the next section.

What the research says . . .

- Students must learn what information to delete, substitute and keep. To do this effectively, students must engage in a **DEEP analysis** of the information.
- Being aware of the **explicit structure** of information is an aid to summarization.
- Statistical outcome (when combined with note taking)
  - Effect size = 1.00 (large effect)
  - Percentile gain = 34 (one standard deviation)

Representing Knowledge
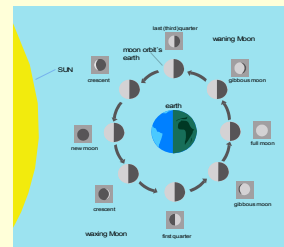
Adapted from
Marzano, R.; Norford, J.; Paynter, D.; Pickering, D.; and Gaddy, B. (2001). *A Handbook for Classroom Instruction that Works.* Alexandria, VA: ASCD.

Representing Knowledge

Knowledge is stored linguistically (words) and nonlinguistically (images and sensations). Nonlinguistic modes include images and even physical sensations such as smell, taste, touch, kinesthetic associations, and sound. **Research indicates that nonlinguistic representations are more effective (aid in recall; expands "brain activity" – thinking) if they elaborate on or add to students' knowledge**.

Recommendations for Classroom Practice
  - Use graphic organizers.
  - Use pictographic representations
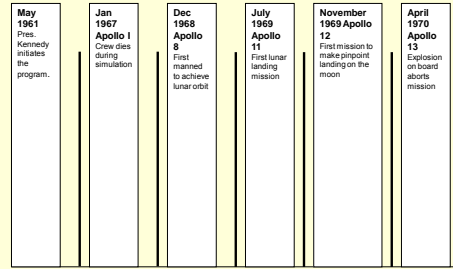 - Use mental images
  - Use physical models

Use graphic organizers

- Used typically to organize declarative knowledge to reveal relationships and connections.
- Modeling must be done to demonstrate the process.
- Six common patterns – descriptions, time sequences, process/cause-effect relationships, episodes, generalizations/principles, and concepts.

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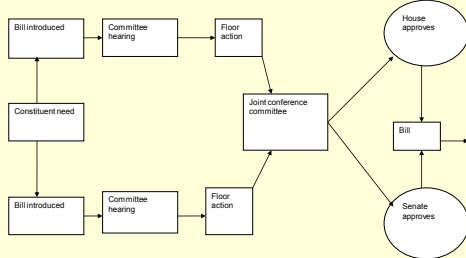**Descriptive Pattern Organizer** (includes facts but these are not necessarily ordered)

- Etc.
- Fiction
- Non-Fiction
- Literary Texts
- Poems
- Speech
- Sonnet
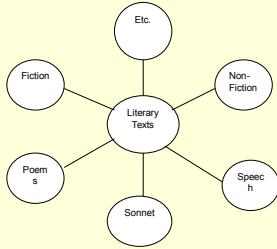
Time Sequence Pattern Organizer (emphasizes chronological organization)
Highlights of the Apollo Space Program

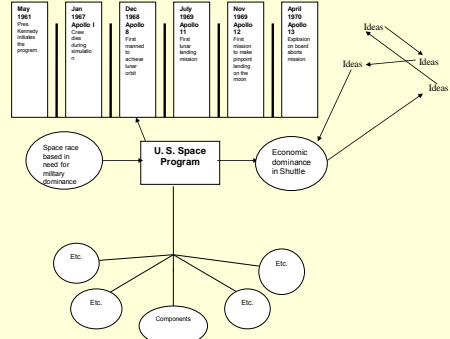| May 1961 Pres. Kennedy initiates the program. | Jan 1967 Apollo I Crew dies during simulation | Dec 1968 Apollo 8 First manned to achieve lunar orbit | July 1969 Apollo 11 First lunar landing mission | November 1969 Apollo 12 First mission to make pinpoint landing on the moon | April 1970 Apollo 13 Explosion on board aborts mission |

Process/Cause-Effect Relationship Pattern Organizer (causal network of a sequence of steps or ideas leading to a product or outcome)

How a bill becomes a law in the US (at least the first part of the process)

- Bill introduced → Committee hearing → Floor action
- Constituent need
- Bill introduced → Committee hearing → Floor action
- Joint conference committee
- House approves
- Bill
- Senate approves

Episode Pattern Organizer (organize information about specific events that include setting, people, duration, sequence of events, a particular cause and effect)

| May 1961 Pres. Kennedy initiates the program. | Jan 1967 Apollo I Crew dies during simulation | Dec 1968 Apollo 8 First manned to achieve lunar orbit | July 1969 Apollo 11 First lunar landing mission | Nov 1969 Apollo 12 First mission to make pinpoint landing on the moon | April 1970 Apollo 13 Explosion on board aborts mission |

- Ideas
- Ideas
- Ideas
- Ideas
- Space race based in need for military dominance
- U. S. Space Program
- Economic dominance in Shuttle
- Etc.
- Etc.
- Etc.
- Etc.
- Components

Generalization Pattern Organizer (general statements with supporting examples)

Fables are stories that teach a lesson

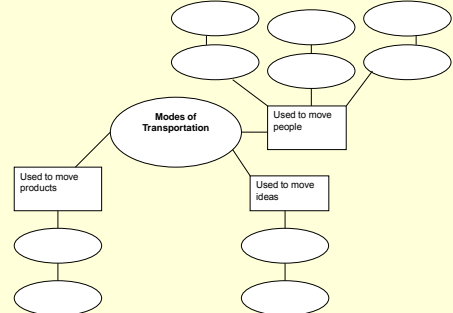- **"The Fox and the Crow"** Do not trust someone who flatters you.
- **"The Tortoise and the Hare"** Slow but steady wins the race.
- **"The Ant and the Grasshopper"** Get ready today for what you might need tomorrow.

Concept Pattern Organizer (characteristics or attributes of the concept with examples)

- Modes of Transportation
- Used to move people
- Used to move products
- Used to move ideas

Pictograph representations

Pictograph (symbols or symbolic pictures to represent concepts, progressions, etc.)

Use mental images

Create a mental picture (a metaphor works nicely!) to illustrate abstract conceptions. Psychologist John Hayes (in Marzano, 2001) provides an example of how a student might generate a mental picture for the physics equation:

Force equals the product of the masses of two objects (M1 x M2)times a constant (G) divided by the square of the distance between them (r2).

$$F = \frac{(M1 \times M2)\ G}{r2}$$

Imagine two large globes in space with the learner in the middle trying to hold them apart. If either of the globes were very heavy, we would expect that it would be harder to hold them apart than if both were light. Since force increases as either of the masses (M1 and M2) increases, the masses must be in the numerator. As we push the globes further apart, the force of attraction between them will decrease as the force of attraction between the two magnets decreases as we pull them apart. Since force decreases as distance increases, r must be in the denominator (p. 149)

Use physical models

Create or have students create physical models of the concepts under consideration. These then become "manipulatives" that allow students to extend their knowledge of the concept and applications thereof (e.g., to understand proportion and relationships, students might take an everyday object and create a scale model, and then write an explanation of the proportion and the process used to create the scaled model). Caution: models must extend knowledge to avoid being viewed as "busy work."
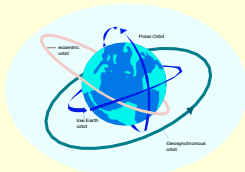
Use kinesthetic representations

Kinesthetic activities involve physical movement concerning a specific concept or conceptual set that generates a mental image in the mind of the learner. Even though this type activity is often associated with younger learners, secondary level students often gain from role-play of processes or events.

A simple activity such as using floor tiles to represent points on a graph works well in engaging certain students. Students determine a position to assume on the "graph" to represent points on a line generated by a formula.

Planning for Activities

1. What knowledge will students be learning?

2. Will I provide a representation for them or ask them to create their own?

3. What representing knowledge strategy will I ask students to use (graphic organizer, pictograph, mental images, physical representation, kinesthetic activity, other)?

4. Do I need to set aside time to teach students the strategy I want them to use? How will I teach students the strategy?

5. How will I monitor students' creation and use of nonlinguistic representations?

6. What will I do to help students who are not using nonlinguistic representations effectively?

What the research says . . .

- A variety of activities produce nonlinguistic representations.

- Nonlinguistic representations should elaborate on knowledge.

- Statistical outcome when paired with Homework
  – Effect size = .75 (medium effect)
  – Percentile gain = 27

Break!!

Take ten!

Question Six: What will be done to help students practice and revise the new content?

- Ask students to revise their notes, correcting errors and adding detail. Vignette – page 21.
- Ask students to revise their pictures, pictographs, graphic representations, and physical models, correcting errors and adding detail. Vignette – page 22.
- Ask students to revise their mental images, correcting errors and adding details. Vignette – page 22.
- Use activities and assignments that require students to practice skills, processes, and procedures. See handout on homework and practice! Vignette – page 22.
- Practice! In your team, determine what will be done in one major activity to helps students practice and revise the new content? Prepare to share this with the whole group. See the template on page 37.

Homework and Practice

Adapted from
Marzano, R.; Norford, J.; Paynter, D.; Pickering, D.; and Gaddy, B.
(2001). *A Handbook for Classroom Instruction that Works.*
Alexandria, VA: ASCD.

Homework

Homework **extends learning activities beyond the confines of the school day**. While it **can be an asset, it can also be a liability** dependent upon how it is approached.

Recommendations for Classroom Practice

- Establish and communicate a homework policy.
- Ask students to use homework sheets.
- Comment on homework.

Establish and communicate a homework policy

- **Purpose** – students need to know *how* the assignment will enhance their knowledge or skill levels. Any appearance of "busy work" will cause students just to do the job, not think well about it.
  - **Practice**
    - Be careful students are ready to do unsupervised practice; you don't want to reinforce "wrong" practice.
    - Help them set goals for the practice and benchmarks by which to judge their own progress in speed or accuracy.
  - **Prepare for a new topic (revisit prior knowledge)**
    - Incorporating a writing task (or some sort of graphic representation) will enhance student analysis of prior knowledge.
    - Challenge students to consider what they want to learn.
  - **Elaborate on material to extend knowledge**
    - Challenge students to conduct further research.
    - Challenge students to identify similarities and differences.
    - Challenge students to represent their understanding of the conceptual relationships of the material in graphic organizers.
- **How much should be assigned** – this is a function of the cultural environment of the school and community.
- **Consequences for missing or late homework**
- **Limits on parental involvement** – parents should not DO the homework! They should:
    - Help determine a *place* to complete homework.
    - Help determine a *schedule* for completing homework.
    - Provide encouragement and motivation.
    - Monitor student progress and inform the teacher if concerns about understanding arise.

Ask students to use homework sheets

- Daily planners or notebooks should be used to help students organize and track work.
- Assignment sheets helps students to consider purpose as well as to develop questions prior to beginning the assignment.
- **Homework Assignment Sheet**

Homework Assignment Sheet	
Subject:	Due date:
Homework assignment:	
Purpose of the assignment:	
Information I need to know or skills I need to be able to do so I can complete the assignment:	

Comment on homework

This provides important feedback and reinforces the importance of outside work (i.e., it is not busy work!).

- Specific feedback can improve student achievement.

- Time is an issue so various methods of providing comment should be considered

  – Pair or Team-share ideas among students
  – Teacher-directed peer review
  – Collect items in a portfolio or notebook that the teacher reviews once a week.

What the research says . . .

- The amount of homework assigned should be age appropriate. Recommendations range from 60 to 180 minutes per day for high school students. One study indicated that for about every 30 minutes of increased study time, a student's GPA will increase by about one-half point (e.g., from a 2.0 to 2.5).

- Parent involvement should be kept to a minimum.

- The purpose of homework should be identified and articulated.

- If homework is assigned, it should be commented upon.

- Statistical outcome when paired with Practice

  – Effect size = .77 (medium effect)
  – Percentile gain = 28

Practice

Practice reinforces **use** of new knowledge. In general students **need at least 20 – 24 practice sessions** before the teacher can be reasonably sure that the student can use it effectively on his or her own.

Recommendations for Classroom Practice

- Determine which skills are worth practicing. Practice takes **time** so skills must be prioritized.
  – Priority should reflect essential understanding of the content.
  – Priority should determined by the teacher based upon students' prior knowledge, upcoming learning, and standards.
- Schedule massed practice and distributed practice.
  – Massed practice – a new skill should be practiced repeatedly immediately after it is introduced (e.g., practice for the remainder of the period to ensure accuracy, then practice as homework, and finally check homework the next day before another practice session if needed).
  – Distributed practice – the interval between practice sessions may increase as skill acquisition becomes stronger.
- Ask students to chart speed and accuracy. Dependent upon the skill, speed (??) or accuracy (writing a good descriptive paragraph) or both (conversation in a foreign language) may receive priority.
- Help students shape a skill or process.
  – Help students anticipate errors or pitfalls – demonstrate common mistakes.
  – Illustrate important variations and provide "*What would happen if . . .*" scenarios.

Speed and Accuracy Worksheet		
Name:		
Number of items in set	Number of items correct	Number of minutes
What I need to do to improve speed or accuracy before the next practice:		

Planning for Activities

- What skills will I only introduce?
- How often will students perform or practice the skills I only introduce?
- What are my expectations for student performance in those skills I only introduce?
- What skills will I have students practice for mastery?
- What will be the practice schedule?
- How will I help students adapt or shape the skill or process?
- What specific components or subcomponents of a process will I ask students to practice?
- How will I monitor how well students are doing with the skill or process?
- What will I do to help students who are not using the skill or process effectively?

What the research says . . .

- Mastering a skill requires a fair amount of focused practice. It takes up to 24 practice sessions before a mastery level of about 80% is reached. The first four practice sessions result in a gain of about 47.9% mastery, the next set of four gains about 14 %, and the gain decreases with each subsequent set. Practice needs to be spread out over time (distributed practice) to facilitate movement into long-term memory.

- While practicing, students should adapt and shape what they have learned. Learners should attend to their conceptual understanding (through examples and variations) so that they understand the process (how and why it is used in particular circumstances or applications) before attending to speed. Introduce only a few examples and allow time for accuracy to build **before** working on speed.

- Statistical outcome when paired with Homework

  – Effect size = .77 (medium effect)
  – Percentile gain = 28

Question Seven: What will be done to help students apply the new content (in and outside of class)?

- Use activities and assignments that require students to compare and contrast content and defend their conclusions. See Identifying Similarities and Differences handout. Vignettes – page 24.
- Use activities and assignments that require students to classify content and defend their conclusions. Vignettes – page 24.
- Use activities and assignments that require students to create metaphors with content and defend their conclusions. Vignette – page 25.
- Use activities that require students to create analogies with the content and defend their conclusions. Vignette – page 26.
- Use activities and assignments that require students to solve problems regarding content and defend their conclusions. Vignette – page 26.
- Use activities and assignments that require students to make decisions regarding content and defend their conclusions. Vignette – page 27.
- Use activities and assignments that require students to engage in experimental inquiry regarding content and defend their conclusions. Vignette – page 28.
- Use activities and assignments that require students to engage in systems analysis regarding content. Vignette – page 28.
- Use activities and assignments that require students to invent things regarding content and defend their conclusions. Vignettes – page 29.
- Practice! In your team, determine what will be done in one major activity to helps students apply new knowledge. Prepare to share this with the whole group. See the template on page 38.

Question Eight: How will grouping of students be used (informal, formal, and base groups)?

- Use informal groups. Informal groups (e.g., pair share, turn to your neighbor) are used for short periods (one class period or less) to help students clarify expectations, process information in more depth, focus attention or to provide closure. Vignette – page 30.
- Use formal groups. Formal groups are for well-structured activities that generally take a class period or longer. Group students in a manner conducive to the project parameters; heterogeneous groups of three to five members is considered an ideal. Vignette – page 30.
- Use base groups. Base groups are for long term use (i.e., over multiple projects) that might extend to a semester or year. These groups benefit from members representing a variety of learning preferences. Vignette – page 31.
- Practice! In your team, determine how students might be grouped to foster meaningful learning in a major activity. Prepare to share this with the whole group. See the template on page 39.

Question Nine: During the unit and at the end of the unit, how will feedback be provided to students as to their status and progress?

- Use pre-testing. Pretests reveal what students know as a baseline and form an important reference by which to measure progress, especially when the pre-test is also used as a post-test. [Students don't remember enough of the pre-test to skew results in the post-test.] Vignette – page 32.
- Periodically report current status and progress. Vignette – page 32.
- Have students keep track of their current status and progress. This makes students think about their progress (considering *why* their progress is as it is) and provides an important basis of communication between the student and the teacher. Vignette – page 32.
- Practice! In your team, determine how feedback will be provided, and why that means is important to your students. Prepare to share this with the whole group. See the template on page 39.

Question Ten: During the unit and at the end of the unit, how will success be celebrated and how will effort be encouraged?

- Celebrate legitimate success. Accomplishment of a goal, not simple participation in a task (unless that is the goal), should be celebrated in a fashion that reinforces and encourages effort. Vignette – page 33.
- Recognize and encourage effort. Systematic recognition and encouragement should be offered. Systematizing it provides an expectation and "comfort" zone for students. Vignette – page 33.
- Practice! In your team, determine how success will be celebrated and effort encouraged. Prepare to share this with the whole group. See the template on page 40.

Lunch!!

Great work!
Reconvene at 1:00 pm

Self Reflection

Self reflection is done daily, immediately after the unit (on each of the 10 questions), and long term.

- Daily (condensed) – page 41.
  - How did my students do?
  - What activities need more time or less time?
  - What worked well and what did not work well?
  - What would I change about this day if I did it again?
- After the unit – page 41.
  - Review the critical question sub-components.
  - Ask also what you would change for the next time the unit is taught.
- Long term – page 46.
  - Do I operate from the principle that all students can learn?
  - Do I take into consideration the background and motivation level of students?
  - Do I plan in a way that reflects the Indiana academic standards?
  - Do I plan in a way that reflects the valued outcomes of Vigo County School Corporation?
  - Do I plan in a way that addresses the development of critical and creative thinking in students?

Issues associated with training and support

- Consider the timing of the training session
  - Day of week
  - Time of day
  - Length of session
- Consider the construct of the training session
  - "Culture" of your building
  - Learning by doing
  - "Checks" for understanding
  - Support materials
  - Time to be devoted to training segments
  - Ways to celebrate learning
- Support
  - Create a learning community for participants
  - Timely "checks" for need or coaching
  - Sharing of developed units among the group
  - Recognizing and reinforcing effort
  - Celebrating successes

Break!!

Take ten!

Planning time!